

Source Water Entering Temp = 90°F	HEATING MODE										COOLING MODE				
	Units	R-410A					R-134a					R-410A	R-134a	Units	
Building Water Entering Temp	°F					100	110	120	130	140	55	55	°F	Building Water Entering Temp	
Building Water Leaving Temp	°F					110	120	130	140	150	45	45	°F	Building Water Leaving Temp	
Heating Capacity	MBTUH					402.6	385.3	263.7	254.8	246.3	246.6	163.2	MBTUH	Cooling Capacity	
Condenser Water Flow	GPM					80.5	77.1	52.7	51.0	49.3	49.3	32.6	GPM	Evaporator Water Flow	
Evaporator Load	MBTUH					334.1	308.2	207.2	192.2	176.9	306.8	203.3	MBTUH	Condenser Load	
Evaporator Water Flow	GPM					66.8	61.6	41.4	38.4	35.4	61.4	40.7	GPM	Condenser Water Flow	
Power Input	kW					20.1	22.6	16.6	18.3	20.3	17.6	11.8	kW	Power Input	
COP	-					5.88	5.00	4.67	4.07	3.55	13.97	13.87	-	EER	
Source Water Leaving Temp	°F					80	80	80	80	80	100	100	°F	Source Water Leaving Temp	

Source Water Entering Temp = 80°F	HEATING MODE										COOLING MODE				
	Units	R-410A					R-134a					R-410A	R-134a	Units	
Building Water Entering Temp	°F					90	100	110	120	130	140	55	55	°F	Building Water Entering Temp
Building Water Leaving Temp	°F					100	110	120	130	140	150	45	45	°F	Building Water Leaving Temp
Heating Capacity	MBTUH					419.7	402.6	263.7	254.8	246.3	263.2	172.7	MBTUH	Cooling Capacity	
Condenser Water Flow	GPM					83.9	80.5	77.1	52.7	51.0	49.3	52.6	34.5	GPM	Evaporator Water Flow
Evaporator Load	MBTUH					358.6	334.1	308.2	207.2	192.2	176.9	316.7	208.9	MBTUH	Condenser Load
Evaporator Water Flow	GPM					71.7	66.8	61.6	41.4	38.4	35.4	63.3	41.8	GPM	Condenser Water Flow
Power Input	kW					17.9	20.1	22.6	16.6	18.3	20.3	15.7	10.6	kW	Power Input
COP	-					6.87	5.88	5.00	4.67	4.07	3.55	16.78	16.26	-	EER
Source Water Leaving Temp	°F					70	70	70	70	70	70	90	90	°F	Source Water Leaving Temp

Source Water Entering Temp = 70°F	HEATING MODE										COOLING MODE					
	Units	R-410A					R-134a					R-410A	R-134a	Units		
Building Water Entering Temp	°F					80	90	100	110	120	130	140	55	55	°F	Building Water Entering Temp
Building Water Leaving Temp	°F					90	100	110	120	130	140	150	45	45	°F	Building Water Leaving Temp
Heating Capacity	MBTUH					420.2	388.3	373.2	357.9	242.4	234.7	227.4	278.7	180.9	MBTUH	Cooling Capacity
Condenser Water Flow	GPM					84.0	77.7	74.6	71.6	48.5	46.9	45.5	55.7	36.2	GPM	Evaporator Water Flow
Evaporator Load	MBTUH					348.8	327.5	304.9	280.9	186.3	172.6	158.5	326.4	213.9	MBTUH	Condenser Load
Evaporator Water Flow	GPM					69.8	65.5	61.0	56.2	37.3	34.5	31.7	65.3	42.8	GPM	Condenser Water Flow
Power Input	kW					20.9	17.8	20.0	22.6	16.4	18.2	20.2	14.0	9.7	kW	Power Input
COP	-					5.88	6.39	5.47	4.65	4.33	3.78	3.30	19.94	18.70	-	EER
Source Water Leaving Temp	°F					60	60	60	60	60	60	60	80	80	°F	Source Water Leaving Temp

Source Water Entering Temp = 60°F	HEATING MODE										COOLING MODE						
	Units	R-410A					R-134a					R-410A	R-134a	Units			
Building Water Entering Temp	°F					70	80	90	100	110	120	130	140			°F	Building Water Entering Temp
Building Water Leaving Temp	°F					80	90	100	110	120	130	140	150			°F	Building Water Leaving Temp
Heating Capacity	MBTUH					354.6	343.4	332.0	320.4	308.7	204.5	199.0	193.9			MBTUH	Cooling Capacity
Condenser Water Flow	GPM					70.9	68.7	66.4	64.1	61.7	40.9	39.8	38.8			GPM	Evaporator Water Flow
Evaporator Load	MBTUH					306.6	289.7	271.6	252.4	232.0	149.4	137.9	126.1			MBTUH	Condenser Load
Evaporator Water Flow	GPM					61.3	57.9	54.3	50.5	46.4	29.9	27.6	25.2			GPM	Condenser Water Flow
Power Input	kW					14.1	15.7	17.7	19.9	22.5	16.1	17.9	19.9			kW	Power Input
COP	-					7.39	6.39	5.50	4.71	4.02	3.71	3.26	2.86			-	EER
Source Water Leaving Temp	°F					50	50	50	50	50	50	50	50			°F	Source Water Leaving Temp

Source Water Entering Temp = 50°F	HEATING MODE										COOLING MODE							
	Units	R-410A					R-134a					R-410A	R-134a	Units				
Building Water Entering Temp	°F					60	70	80	90	100	110	120	130	140			°F	Building Water Entering Temp
Building Water Leaving Temp	°F					70	80	90	100	110	120	130	140	150			°F	Building Water Leaving Temp
Heating Capacity	MBTUH					308.6	300.4	292.0	283.4	274.9	266.4	172.5	168.9	165.8			MBTUH	Cooling Capacity
Condenser Water Flow	GPM					61.7	60.1	58.4	56.7	55.0	53.3	34.5	33.8	33.2			GPM	Evaporator Water Flow
Evaporator Load	MBTUH					266.3	252.9	238.6	223.3	207.1	189.9	118.2	108.7	99.0			MBTUH	Condenser Load
Evaporator Water Flow	GPM					53.3	50.6	47.7	44.7	41.4	38.0	23.6	21.7	19.8			GPM	Condenser Water Flow
Power Input	kW					12.4	13.9	15.6	17.6	19.9	22.4	15.9	17.6	19.6			kW	Power Input
COP	-					7.29	6.33	5.47	4.71	4.05	3.48	3.18	2.81	2.48			-	EER
Source Water Leaving Temp	°F					40	40	40	40	40	40	40	40	40			°F	Source Water Leaving Temp

Source Water Entering Temp = 40°F	HEATING MODE										COOLING MODE							
	Units	R-410A					R-134a					R-410A	R-134a	Units				
Building Water Entering Temp	°F					60	70	80	90	100	110	120	130	140			°F	Building Water Entering Temp
Building Water Leaving Temp	°F					70	80	90	100	110	120	130	140	150			°F	Building Water Leaving Temp
Heating Capacity	MBTUH					259.9	253.9	247.8	241.8	235.9	230.2	145.6	143.7			MBTUH	Cooling Capacity	
Condenser Water Flow	GPM					52.0	50.8	49.6	48.4	47.2	46.0	29.1	28.7			GPM	Evaporator Water Flow	
Evaporator Load	MBTUH					218.0	206.7	194.7	181.9	168.3	153.9	92.2	84.4			MBTUH	Condenser Load	
Evaporator Water Flow	GPM					43.6	41.3	38.9	36.4	33.7	30.8	18.4	16.9			GPM	Condenser Water Flow	
Power Input	kW					12.3	13.8	15.6	17.6	19.8	22.3	15.7	17.4			kW	Power Input	
COP	-					6.20	5.38	4.66	4.03	3.49	3.02	2.72	2.42			-	EER	
Source Water Leaving Temp	°F					30	30	30	30	30	30	30	30	30			°F	Source Water Leaving Temp

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ENVIRONMENTALLY ENGINEERED EQUIPMENT, INC.

Water-to-Water Heat Pumps

SS 20 Data Sheet



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